

SEQUENCE LISTING

<110> Shigeo OHNO

<120> Novel SMG-1

<130> 2352.002

<150> PCT/JP01/10234

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Met Ser Arg Arg Ala Pro Gly Ser Arg

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ctg agc agc ggc ggc acc aac tat tcg cgg agc tgg aat gac tgg caa 402

Leu Ser Ser Gly Gly Thr Asn Tyr Ser Arg Ser Trp Asn Asp Trp Gln

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15

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25

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Pro Arg Thr Asp Ser Ala Ser Ala Asp Pro Gly Asn Leu Lys Tyr Ser

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Ser Ser Arg Asp Arg Gly Gly Ser Ser Ser Tyr Gly Leu Gln Pro Ser			
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Asn Ser Ala Val Val Ser Arg Gln Arg His Asp Asp Thr Arg Val His			
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Ala Asp Ile Gln Asn Asp Glu Lys Gly Gly Tyr Ser Val Asn Gly Gly			
75	80	85	
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Ser Gly Glu Asn Thr Tyr Gly Arg Lys Ser Leu Gly Gln Glu Leu Arg			
90	95	100	105
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Val Asn Asn Val Thr Ser Pro Glu Phe Thr Ser Val Gln His Gly Ser			
110	115	120	
cgt gct tta gcc acc aaa gac atg agg aaa tca cag gag aga tcg atg			738
Arg Ala Leu Ala Thr Lys Asp Met Arg Lys Ser Gln Glu Arg Ser Met			
125	130	135	
tct tat tct gat gag tct cga ctg tcg aat ctt ctt cgg agg atc acc			786
Ser Tyr Ser Asp Glu Ser Arg Leu Ser Asn Leu Leu Arg Arg Ile Thr			
140	145	150	
cgg gaa gac gac aga gac cga aga ttg gct act gta aag cag ttg aaa			834
Arg Glu Asp Asp Arg Asp Arg Arg Leu Ala Thr Val Lys Gln Leu Lys			
155	160	165	
gaa ttt att cag caa cca gaa aat aag ctg gta cta gtt aaa caa ttg			882
Glu Phe Ile Gln Gln Pro Glu Asn Lys Leu Val Leu Val Lys Gln Leu			
170	175	180	185
gat aat atc ttg gct gct gta cat gac gtg ctt aat gaa agt agc aaa			930
Asp Asn Ile Leu Ala Ala Val His Asp Val Leu Asn Glu Ser Ser Lys			
190	195	200	
ttg ctt cag gag ttg aga cag gag gga gct tgc tgt ctt ggc ctt ctt			978
Leu Leu Gln Glu Leu Arg Gln Glu Gly Ala Cys Cys Leu Gly Leu Leu			
205	210	215	

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Cys Ala Ser Leu Ser Tyr Glu Ala Glu Lys Ile Phe Lys Trp Ile Phe	
220 225 230	
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Ser Lys Phe Ser Ser Ser Ala Lys Asp Glu Val Lys Leu Leu Tyr Leu	
235 240 245	
tgt gcc acc tac aaa gca cta gag act gta gga gaa aag aaa gcc ttt	1122
Cys Ala Thr Tyr Lys Ala Leu Glu Thr Val Gly Glu Lys Lys Ala Phe	
250 255 260 265	
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Ser Ser Val Met Gln Leu Val Met Thr Ser Leu Gln Ser Ile Leu Glu	
270 275 280	
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Asn Val Asp Thr Pro Glu Leu Leu Cys Lys Cys Val Lys Cys Ile Leu	
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300 305 310	
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315 320 325	
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Ser Leu Thr Gln Gln Val Ser Gly Trp Leu Gln Ser Leu Glu Pro Phe	
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Trp Val Ala Asp Leu Ala Phe Ser Thr Thr Leu Leu Gly Gln Phe Leu	
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Glu Asp Met Glu Ala Tyr Ala Glu Asp Leu Ser His Val Ala Ser Gly	
365 370 375	
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Glu Ser Val Asp Glu Asp Val Pro Pro Pro Ser Val Ser Leu Pro Lys	
380 385 390	
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Leu Ala Ala Leu Leu Arg Val Phe Ser Thr Val Val Arg Ser Ile Gly	

395	400	405	
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Glu Arg Phe Ser Pro Ile Arg Gly Pro Pro Ile Thr Glu Ala Tyr Val			
410	415	420	425
aca gat gtt ctg tac aga gta atg aga tgt gtg acg gct gca aac cag			1650
Thr Asp Val Leu Tyr Arg Val Met Arg Cys Val Thr Ala Ala Asn Gln			
	430	435	440
gtg ttt ttt tct gag gct gtg ttg aca gct gct aat gag tgt gtt ggt			1698
Val Phe Phe Ser Glu Ala Val Leu Thr Ala Ala Asn Glu Cys Val Gly			
	445	450	455
gtt ttg ctc ggc agc ttg gat cct agc atg act ata cat tgt gac atg			1746
Val Leu Leu Gly Ser Leu Asp Pro Ser Met Thr Ile His Cys Asp Met			
	460	465	470
gtc att aca tat gga tta gac caa ctg gag aat tgc cag act tgt ggt			1794
Val Ile Thr Tyr Gly Leu Asp Gln Leu Glu Asn Cys Gln Thr Cys Gly			
	475	480	485
acc gat tat atc atc tca gtc ttg aat tta ctc acg ctg att gtt gaa			1842
Thr Asp Tyr Ile Ile Ser Val Leu Asn Leu Leu Thr Leu Ile Val Glu			
	490	495	500
cag ata aat acg aaa ctg cca tca tca ttt gta gaa aaa ctg ttt ata			1890
Gln Ile Asn Thr Lys Leu Pro Ser Ser Phe Val Glu Lys Leu Phe Ile			
	510	515	520
cca tca tct aaa cta cta ttc ttg cgt tat cat aaa gaa aaa gag gtt			1938
Pro Ser Ser Lys Leu Leu Phe Leu Arg Tyr His Lys Glu Lys Glu Val			
	525	530	535
gtt gct gta gcc cat gct gtt tat caa gca gtg ctc agc ttg aag aat			1986
Val Ala Val Ala His Ala Val Tyr Gln Ala Val Leu Ser Leu Lys Asn			
	540	545	550
att cct gtt ttg gag act gcc tat aag tta ata ttg gga gaa atg act			2034
Ile Pro Val Leu Glu Thr Ala Tyr Lys Leu Ile Leu Gly Glu Met Thr			
	555	560	565
tgt gcc cta aac aac ctc cta cac agt cta caa ctt cct gag gcc tgt			2082
Cys Ala Leu Asn Asn Leu Leu His Ser Leu Gln Leu Pro Glu Ala Cys			
	570	575	580
			585

tct gaa ata aaa cat gag gct ttt aag aat cat gtg ttc aat gta gac	2130
Ser Glu Ile Lys His Glu Ala Phe Lys Asn His Val Phe Asn Val Asp	
590 595 600	
aat gca aaa ttt gta gtt aaa ttt gac ctc agt gcc ctg act aca att	2178
Asn Ala Lys Phe Val Val Lys Phe Asp Leu Ser Ala Leu Thr Thr Ile	
605 610 615	
gga aat gcc aaa aac tca cta ata ggg atg tgg gcg cta tct cca act	2226
Gly Asn Ala Lys Asn Ser Leu Ile Gly Met Trp Ala Leu Ser Pro Thr	
620 625 630	
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Val Phe Ala Leu Leu Ser Lys Asn Leu Met Ile Val His Ser Asp Leu	
635 640 645	
gct gtt cac ttc cct gcc att cag tat gct gtg ctc tac aca ttg tat	2322
Ala Val His Phe Pro Ala Ile Gln Tyr Ala Val Leu Tyr Thr Leu Tyr	
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Ser His Cys Thr Arg His Asp His Phe Ile Ser Ser Ser Leu Ser Ser	
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Ala Ser Pro Ser Leu Phe Asp Gly Ala Val Ile Ser Thr Val Thr Thr	
685 690 695	
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Ala Thr Lys Lys His Phe Ser Ile Ile Leu Asn Leu Leu Gly Ile Leu	
700 705 710	
ctt aag aaa gat aac ctt aac cag gac acg agg aaa ctg tta atg act	2514
Leu Lys Lys Asp Asn Leu Asn Gln Asp Thr Arg Lys Leu Leu Met Thr	
715 720 725	
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Trp Ala Leu Glu Ala Ala Val Leu Met Arg Lys Ser Glu Thr Tyr Ala	
730 735 740 745	
cct tta ttc tct ctt ccg tct ttc cat aaa ttt tgc aaa ggc ctt tta	2610
Pro Leu Phe Ser Leu Pro Ser Phe His Lys Phe Cys Lys Gly Leu Leu	
750 755 760	
gcc aac act ctc gtt gaa gat gtg aat atc tgt ctg cag gca tgc agc	2658
Ala Asn Thr Leu Val Glu Asp Val Asn Ile Cys Leu Gln Ala Cys Ser	

765	770	775	
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Ser Leu His Ala Leu Ser Ser Ser Leu Pro Asp Asp Leu Leu Gln Arg			
780	785	790	
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Cys Val Asp Val Cys Arg Val Gln Leu Val His Ser Gly Thr Arg Ile			
795	800	805	
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Arg Gln Ala Phe Gly Lys Leu Leu Lys Ser Ile Pro Leu Asp Val Val			
810	815	820	825
cta agc aat aac aat cac aca gaa att caa gaa att tct tta gca tta			2850
Leu Ser Asn Asn Asn His Thr Glu Ile Gln Glu Ile Ser Leu Ala Leu			
	830	835	840
aga agt cac atg agt aaa gca cca agt aat aca ttc cac ccc caa gat			2898
Arg Ser His Met Ser Lys Ala Pro Ser Asn Thr Phe His Pro Gln Asp			
	845	850	855
ttc tct gat gtt att agt ttt att ttg tat ggg aac tct cat aga aca			2946
Phe Ser Asp Val Ile Ser Phe Ile Leu Tyr Gly Asn Ser His Arg Thr			
860	865	870	
ggg aag gac aat tgg ttg gaa aga ctg ttc tat agc tgc cag aga ctg			2994
Gly Lys Asp Asn Trp Leu Glu Arg Leu Phe Tyr Ser Cys Gln Arg Leu			
875	880	885	
gat aag cgt gac cag tca aca att cca cgc aat ctc ctg aag aca gat			3042
Asp Lys Arg Asp Gln Ser Thr Ile Pro Arg Asn Leu Leu Lys Thr Asp			
890	895	900	905
gct gtc ctt tgg cag tgg gcc ata tgg gaa gct gca caa ttc act gtt			3090
Ala Val Leu Trp Gln Trp Ala Ile Trp Glu Ala Ala Gln Phe Thr Val			
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ctt tct aag ctg aga acc cca ctg ggc aga gct caa gac acc ttc cag			3138
Leu Ser Lys Leu Arg Thr Pro Leu Gly Arg Ala Gln Asp Thr Phe Gln			
	925	930	935
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Thr Ile Glu Gly Ile Ile Arg Ser Leu Ala Ala His Thr Leu Asn Pro			
940	945	950	

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Asp Gln Asp Val Ser Gln Trp Thr Thr Ala Asp Asn Asp Glu Gly His	
955 960 965	
ggt aac aac caa ctt aga ctt gtt ctt ctt ctg cag tat ctg gaa aat	3282
Gly Asn Asn Gln Leu Arg Leu Val Leu Leu Leu Gln Tyr Leu Glu Asn	
970 975 980 985	
ctg gag aaa tta atg tat aat gca tac gag gga tgt gct aat gca tta	3330
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990 995 1000	
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1005 1010 1015	
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Thr Cys Gln Asp Trp Leu Thr Arg Ile Arg Leu Ser Ile Met Arg Val	
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Gly Leu Leu Ala Gly Gln Pro Ala Val Thr Val Arg His Gly Phe Asp	
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gaa gta acc att atg atg gtg gta gaa gca tta tgt gaa ctt cat tgt	3570
Glu Val Thr Ile Met Met Val Val Glu Ala Leu Cys Glu Leu His Cys	
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cct gaa gct ata cag gga att gct gtc tgg tca tca tct att gtt gga	3618
Pro Glu Ala Ile Gln Gly Ile Ala Val Trp Ser Ser Ser Ile Val Gly	
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aaa aat ctt ctg tgg att aac tca gtg gct caa cag gct gaa ggg agg	3666
Lys Asn Leu Leu Trp Ile Asn Ser Val Ala Gln Gln Ala Glu Gly Arg	
1100 1105 1110	
ttt gaa aag gcc tct gtg gag tac cag gaa cac ctg tgt gcc atg aca	3714
Phe Glu Lys Ala Ser Val Glu Tyr Gln Glu His Leu Cys Ala Met Thr	
1115 1120 1125	
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Gly Val Asp Cys Cys Ile Ser Ser Phe Asp Lys Ser Val Leu Thr Leu	

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Ala Asn Ala Gly Arg Asn Ser Ala Ser Pro Lys His Ser Leu Asn Gly				
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gaa tcc aga aaa act gtg ctg tcc aaa ccg act gac tct tcc cct gag				3858
Glu Ser Arg Lys Thr Val Leu Ser Lys Pro Thr Asp Ser Ser Pro Glu				
	1165	1170	1175	
gtt ata aat tat tta gga aat aaa gca tgt gag ttc tac atc tca att				3906
Val Ile Asn Tyr Leu Gly Asn Lys Ala Cys Glu Phe Tyr Ile Ser Ile				
	1180	1185	1190	
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Ala Asp Trp Ala Ala Val Gln Glu Trp Gln Asn Ala Ile His Asp Leu				
	1195	1200	1205	
aaa aag agt acc agt agc act tcc ctc aac ctg aaa gct gac ttc aac				4002
Lys Lys Ser Thr Ser Ser Thr Ser Leu Asn Leu Lys Ala Asp Phe Asn				
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tat ata aaa tca tta agc agc ttt gag tct gga aaa ttt gtt gaa tgt				4050
Tyr Ile Lys Ser Leu Ser Ser Phe Glu Ser Gly Lys Phe Val Glu Cys				
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acc gag cag tta gaa ttg tta cca gga gaa aat atc aat cta ctt gct				4098
Thr Glu Gln Leu Glu Leu Leu Pro Gly Glu Asn Ile Asn Leu Leu Ala				
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gga gga tca aaa gaa aaa ata gac atg aaa aaa ctg ctt cct aac atg				4146
Gly Gly Ser Lys Glu Lys Ile Asp Met Lys Lys Leu Leu Pro Asn Met				
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Leu Ser Pro Asp Pro Arg Glu Leu Gln Lys Ser Ile Glu Val Gln Leu				
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	1290	1295	1300	1305
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Asp Gln Lys Trp Gln Ser Ile Thr Glu Asn Val Val Lys Tyr Leu Lys				
	1310	1315	1320	

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Gln Thr Ser Arg Ile Ala Ile Gly Pro Leu Arg Leu Ser Thr Leu Thr	
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Val Ser Gln Ser Leu Pro Val Leu Ser Thr Leu Gln Leu Tyr Cys Ser	
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Ser Ala Leu Glu Asn Thr Val Ser Asn Arg Leu Ser Thr Glu Asp Cys	
1355 1360 1365	
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Val Arg Pro Trp Met Gln Ala Leu Arg Tyr Thr Met Tyr Gln Asn Gln	
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1420 1425 1430	
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Ser Thr Gln Gly Gln Val Asp Glu Lys Trp Gly Pro Glu Leu Asp Ile	
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Glu Lys Thr Lys Leu Leu Tyr Thr Ala Gly Gln Ser Thr His Ala Met	
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gaa atg ttg agt tct tgt gcc ata tct ttc tgc aag tct gtg aaa gct	4866
Glu Met Leu Ser Ser Cys Ala Ile Ser Phe Cys Lys Ser Val Lys Ala	

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Glu Tyr Ala Val Ala Lys Ser Ile Leu Thr Leu Ala Lys Trp Ile Gln			
1515	1520	1525	
gca gaa tgg aaa gag att tca gga cag ctg aaa cag gtt tac aga gct			4962
Ala Glu Trp Lys Glu Ile Ser Gly Gln Leu Lys Gln Val Tyr Arg Ala			
1530	1535	1540	1545
cag cac caa cag aac ttc aca ggt ctt tct act ttg tct aaa aac ata			5010
Gln His Gln Gln Asn Phe Thr Gly Leu Ser Thr Leu Ser Lys Asn Ile			
1550	1555	1560	
ctc act cta ata gaa ctg cca tct gtt aat acg atg gaa gaa gag tat			5058
Leu Thr Leu Ile Glu Leu Pro Ser Val Asn Thr Met Glu Glu Glu Tyr			
1565	1570	1575	
cct cgg atc gag agt gaa tct aca gtg cat att gga gtt gga gaa cct			5106
Pro Arg Ile Glu Ser Glu Ser Thr Val His Ile Gly Val Gly Glu Pro			
1580	1585	1590	
gac ttc att ttg gga cag ttg tat cac ctg tct tca gta cag gca cct			5154
Asp Phe Ile Leu Gly Gln Leu Tyr His Leu Ser Ser Val Gln Ala Pro			
1595	1600	1605	
gaa gta gcc aaa tct tgg gca gcg ttg gcc agc tgg gct tat agg tgg			5202
Glu Val Ala Lys Ser Trp Ala Ala Leu Ala Ser Trp Ala Tyr Arg Trp			
1610	1615	1620	1625
ggc aga aag gtg gtt gac aat gcc agt cag gga gaa ggt gtt cgt ctg			5250
Gly Arg Lys Val Val Asp Asn Ala Ser Gln Gly Glu Gly Val Arg Leu			
1630	1635	1640	
ctg cct aga gaa aaa tct gaa gtt cag aat cta ctt cca gac act ata			5298
Leu Pro Arg Glu Lys Ser Glu Val Gln Asn Leu Leu Pro Asp Thr Ile			
1645	1650	1655	
act gag gaa gag aaa gag aga ata tat ggt att ctt gga cag gct gtg			5346
Thr Glu Glu Glu Lys Glu Arg Ile Tyr Gly Ile Leu Gly Gln Ala Val			
1660	1665	1670	
tgt cgg ccg gcg ggg att cag gat gaa gat ata aca ctt cag ata act			5394
Cys Arg Pro Ala Gly Ile Gln Asp Glu Asp Ile Thr Leu Gln Ile Thr			
1675	1680	1685	

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Glu Ser Glu Asp Asn Glu Glu Asp Asp Met Val Asp Val Ile Trp Arg	
1690 1695 1700 1705	
cag ttg ata tca agc tgc cca tgg ctt tca gaa ctt gat gaa agt gca	5490
Gln Leu Ile Ser Ser Cys Pro Trp Leu Ser Glu Leu Asp Glu Ser Ala	
1710 1715 1720	
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Thr Glu Gly Val Ile Lys Val Trp Arg Lys Val Val Asp Arg Ile Phe	
1725 1730 1735	
agc ctg tac aaa ctc tct tgc agt gca tac ttt act ttc ctt aaa ctc	5586
Ser Leu Tyr Lys Leu Ser Cys Ser Ala Tyr Phe Thr Phe Leu Lys Leu	
1740 1745 1750	
aac gct ggt caa att cct tta gat gag gat gac cct agg ctg cat tta	5634
Asn Ala Gly Gln Ile Pro Leu Asp Glu Asp Asp Pro Arg Leu His Leu	
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Ser His Arg Val Glu Gln Ser Thr Asp Asp Met Ile Val Met Ala Thr	
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Leu Arg Leu Leu Arg Leu Leu Val Lys His Ala Gly Glu Leu Arg Gln	
1790 1795 1800	
tat ctg gag cac ggc ttg gag aca aca ccc act gca cca tgg agg gga	5778
Tyr Leu Glu His Gly Leu Glu Thr Thr Pro Thr Ala Pro Trp Arg Gly	
1805 1810 1815	
att att ccg caa ctt ttc tca cgc tta aac cac cct gaa gtg tat gtg	5826
Ile Ile Pro Gln Leu Phe Ser Arg Leu Asn His Pro Glu Val Tyr Val	
1820 1825 1830	
cgc caa agt att tgt aac ctt ctc tgc cgt gtg gct caa gat tcc cca	5874
Arg Gln Ser Ile Cys Asn Leu Leu Cys Arg Val Ala Gln Asp Ser Pro	
1835 1840 1845	
cat ctc ata ttg tat cct gca ata gtg ggt acc ata tcg ctt agt agt	5922
His Leu Ile Leu Tyr Pro Ala Ile Val Gly Thr Ile Ser Leu Ser Ser	
1850 1855 1860 1865	
gaa tcc cag gct tca gga aat aaa ttt tcc act gca att cca act tta	5970
Glu Ser Gln Ala Ser Gly Asn Lys Phe Ser Thr Ala Ile Pro Thr Leu	

1870	1875	1880	
ctt ggc aat att caa gga gaa gaa ttg ctg gtt tct gaa tgt gag gga			6018
Leu Gly Asn Ile Gln Gly Glu Glu Leu Leu Val Ser Glu Cys Glu Gly			
1885	1890	1895	
gga agt cct cct gca tct cag gat agc aat aag gat gaa cct aaa agt			6066
Gly Ser Pro Pro Ala Ser Gln Asp Ser Asn Lys Asp Glu Pro Lys Ser			
1900	1905	1910	
gga tta aat gaa gac caa gcc atg atg cag gat tgt tac agc aaa att			6114
Gly Leu Asn Glu Asp Gln Ala Met Met Gln Asp Cys Tyr Ser Lys Ile			
1915	1920	1925	
gta gat aag ctg tcc tct gca aac ccc acc atg gta tta cag gtt cag			6162
Val Asp Lys Leu Ser Ser Ala Asn Pro Thr Met Val Leu Gln Val Gln			
1930	1935	1940	1945
atg ctc gtg gct gaa ctg cgc agg gtc act gtg ctc tgg gat gag ctc			6210
Met Leu Val Ala Glu Leu Arg Arg Val Thr Val Leu Trp Asp Glu Leu			
1950	1955	1960	
tgg ctg gga gtt ttg ctg caa caa cac atg tat gtc ctg aga cga att			6258
Trp Leu Gly Val Leu Leu Gln Gln His Met Tyr Val Leu Arg Arg Ile			
1965	1970	1975	
cag cag ctt gaa gat gag gtg aag aga gtc cag aac aac aac acc tta			6306
Gln Gln Leu Glu Asp Glu Val Lys Arg Val Gln Asn Asn Asn Thr Leu			
1980	1985	1990	
cgc aaa gaa gag aaa att gca atc atg agg gag agg cac aca gct ttg			6354
Arg Lys Glu Glu Lys Ile Ala Ile Met Arg Glu Arg His Thr Ala Leu			
1995	2000	2005	
atg aag ccc atc gta ttt gct ttg gag cat gtg agg agt atc aca gcg			6402
Met Lys Pro Ile Val Phe Ala Leu Glu His Val Arg Ser Ile Thr Ala			
2010	2015	2020	2025
gct cct gca gaa aca cct cat gaa aaa tgg ttt cag gat aac tat ggt			6450
Ala Pro Ala Glu Thr Pro His Glu Lys Trp Phe Gln Asp Asn Tyr Gly			
2030	2035	2040	
gat gcc att gaa aat gcc cta gaa aaa ctg aag act cca ttg aac cct			6498
Asp Ala Ile Glu Asn Ala Leu Glu Lys Leu Lys Thr Pro Leu Asn Pro			
2045	2050	2055	

gca aag cct ggg agc agc tgg att cca ttt aaa gag ata atg cta agt Ala Lys Pro Gly Ser Ser Trp Ile Pro Phe Lys Glu Ile Met Leu Ser 2060 2065 2070	6546
ttg caa cag aga gca cag aaa cgt gca agt tac atc ttg cgt ctt gaa Leu Gln Gln Arg Ala Gln Lys Arg Ala Ser Tyr Ile Leu Arg Leu Glu 2075 2080 2085	6594
gaa atc agt cca tgg ttg gct gcc atg act aac act gaa att gct ctt Glu Ile Ser Pro Trp Leu Ala Ala Met Thr Asn Thr Glu Ile Ala Leu 2090 2095 2100 2105	6642
cct ggg gaa gtc tca gcc aga gac act gtc aca atc cat agt gtg ggc Pro Gly Glu Val Ser Ala Arg Asp Thr Val Thr Ile His Ser Val Gly 2110 2115 2120	6690
gga acc atc aca atc tta ccg act aaa acc aag cca aag aaa ctt ctc Gly Thr Ile Thr Ile Leu Pro Thr Lys Thr Lys Pro Lys Lys Leu Leu 2125 2130 2135	6738
ttt ctt gga tca gat ggg aag agc tat cct tat ctt ttc aaa gga ctg Phe Leu Gly Ser Asp Gly Lys Ser Tyr Pro Tyr Leu Phe Lys Gly Leu 2140 2145 2150	6786
gag gat tta cat ctg gat gag aga ata atg cag ttc cta tct att gtg Glu Asp Leu His Leu Asp Glu Arg Ile Met Gln Phe Leu Ser Ile Val 2155 2160 2165	6834
aat acc atg ttt gct aca att aat cgc caa gaa aca ccc cgg ttc cat Asn Thr Met Phe Ala Thr Ile Asn Arg Gln Glu Thr Pro Arg Phe His 2170 2175 2180 2185	6882
gct cga cac tat tct gta aca cca cta gga aca aga tca gga cta atc Ala Arg His Tyr Ser Val Thr Pro Leu Gly Thr Arg Ser Gly Leu Ile 2190 2195 2200	6930
cag tgg gta gat gga gcc aca ccc tta ttt ggt ctt tac aaa cga tgg Gln Trp Val Asp Gly Ala Thr Pro Leu Phe Gly Leu Tyr Lys Arg Trp 2205 2210 2215	6978
caa caa cgg gaa gct gcc tta caa gca caa aag gcc caa gat tcc tac Gln Gln Arg Glu Ala Ala Leu Gln Ala Gln Lys Ala Gln Asp Ser Tyr 2220 2225 2230	7026
caa act cct cag aat cct gga att gta ccc cgt cct agt gaa ctt tat Gln Thr Pro Gln Asn Pro Gly Ile Val Pro Arg Pro Ser Glu Leu Tyr	7074

2235	2240	2245	
tac agt aaa att ggc cct gct ttg aaa aca gtt ggg ctt agc ctg gat			7122
Tyr Ser Lys Ile Gly Pro Ala Leu Lys Thr Val Gly Leu Ser Leu Asp			
2250	2255	2260	2265
gtg tcc cgt cgg gat tgg cct ctt cat gta atg aag gca gta ttg gaa			7170
Val Ser Arg Arg Asp Trp Pro Leu His Val Met Lys Ala Val Leu Glu			
2270	2275	2280	
gag tta atg gag gcc aca ccc ccg aat ctc ctt gcc aaa gag ctc tgg			7218
Glu Leu Met Glu Ala Thr Pro Pro Asn Leu Leu Ala Lys Glu Leu Trp			
2285	2290	2295	
tca tct tgc aca aca cct gat gaa tgg tgg aga gtt acg cag tct tat			7266
Ser Ser Cys Thr Thr Pro Asp Glu Trp Trp Arg Val Thr Gln Ser Tyr			
2300	2305	2310	
gca aga tct act gca gtc atg tct atg gtt gga tac ata att ggc ctt			7314
Ala Arg Ser Thr Ala Val Met Ser Met Val Gly Tyr Ile Ile Gly Leu			
2315	2320	2325	
gga gac aga cat ctg gat aat gtt ctt ata gat atg acg act gga gaa			7362
Gly Asp Arg His Leu Asp Asn Val Leu Ile Asp Met Thr Thr Gly Glu			
2330	2335	2340	2345
gtt gtt cac ata gat tac aat gtt tgc ttt gaa aaa ggt aaa agc ctt			7410
Val Val His Ile Asp Tyr Asn Val Cys Phe Glu Lys Gly Lys Ser Leu			
2350	2355	2360	
aga gtt cct gag aaa gta cct ttt cga atg aca caa aac att gaa aca			7458
Arg Val Pro Glu Lys Val Pro Phe Arg Met Thr Gln Asn Ile Glu Thr			
2365	2370	2375	
gca ctg ggt gta act gga gta gaa ggt gta ttt agg ctt tca tgt gag			7506
Ala Leu Gly Val Thr Gly Val Glu Gly Val Phe Arg Leu Ser Cys Glu			
2380	2385	2390	
cag gtt tta cac att atg cgg cgt ggc aga gag acc ctg ctg acg ctg			7554
Gln Val Leu His Ile Met Arg Arg Gly Arg Glu Thr Leu Leu Thr Leu			
2395	2400	2405	
ctg gag gcc ttt gtg tac gac cct ctg gtg gac tgg aca gca gga ggc			7602
Leu Glu Ala Phe Val Tyr Asp Pro Leu Val Asp Trp Thr Ala Gly Gly			
2410	2415	2420	2425

gag gct ggg ttt gct ggt gct gtc tat ggt gga ggt ggc cag cag gcc	7650
Glu Ala Gly Phe Ala Gly Ala Val Tyr Gly Gly Gly Gly Gln Gln Ala	
2430 2435 2440	
gag agc aag cag agc aag aga gag atg gag cga gag atc acc cgc agc	7698
Glu Ser Lys Gln Ser Lys Arg Glu Met Glu Arg Glu Ile Thr Arg Ser	
2445 2450 2455	
ctg ttt tct tct aga gta gct gag att aag gtg aac tgg ttt aag aat	7746
Leu Phe Ser Ser Arg Val Ala Glu Ile Lys Val Asn Trp Phe Lys Asn	
2460 2465 2470	
aga gat gag atg ctg gtt gtg ctt ccc aag ttg gac ggt agc tta gat	7794
Arg Asp Glu Met Leu Val Val Leu Pro Lys Leu Asp Gly Ser Leu Asp	
2475 2480 2485	
gaa tac cta agc ttg caa gag caa ctg aca gat gtg gaa aaa ctg cag	7842
Glu Tyr Leu Ser Leu Gln Glu Gln Leu Thr Asp Val Glu Lys Leu Gln	
2490 2495 2500 2505	
ggc aaa cta ctg gag gaa ata gag ttt cta gaa gga gct gaa ggg gtg	7890
Gly Lys Leu Leu Glu Glu Ile Glu Phe Leu Glu Gly Ala Glu Gly Val	
2510 2515 2520	
gat cat cct tct cat act ctg caa cac agg tat tct gag cac acc caa	7938
Asp His Pro Ser His Thr Leu Gln His Arg Tyr Ser Glu His Thr Gln	
2525 2530 2535	
cta cag act cag caa aga gct gtt cag gaa gca atc cag gtg aag ctg	7986
Leu Gln Thr Gln Gln Arg Ala Val Gln Glu Ala Ile Gln Val Lys Leu	
2540 2545 2550	
aat gaa ttt gaa caa tgg ata aca cat tat cag gct gca ttc aat aat	8034
Asn Glu Phe Glu Gln Trp Ile Thr His Tyr Gln Ala Ala Phe Asn Asn	
2555 2560 2565	
tta gaa gca aca cag ctt gca agc ttg ctt caa gag ata agc aca caa	8082
Leu Glu Ala Thr Gln Leu Ala Ser Leu Leu Gln Glu Ile Ser Thr Gln	
2570 2575 2580 2585	
atg gac ctt ggt cct cca agt tac gtg cca gca aca gcc ttt ctg cag	8130
Met Asp Leu Gly Pro Pro Ser Tyr Val Pro Ala Thr Ala Phe Leu Gln	
2590 2595 2600	
aat gct ggt cag gcc cac ttg att agc cag tgc gag cag ctg gag ggg	8178
Asn Ala Gly Gln Ala His Leu Ile Ser Gln Cys Glu Gln Leu Glu Gly	

2605	2610	2615	
gag gtt ggt gct ctc ctg cag cag agg cgc tcc gtg ctc cgt ggc tgt			8226
Glu Val Gly Ala Leu Leu Gln Gln Arg Arg Ser Val Leu Arg Gly Cys			
2620	2625	2630	
ctg gag caa ctg cat cac tat gca acc gtg gcc ctg cag tat ccg aag			8274
Leu Glu Gln Leu His His Tyr Ala Thr Val Ala Leu Gln Tyr Pro Lys			
2635	2640	2645	
gcc ata ttt cag aaa cat cga att gaa cag tgg aag acc tgg atg gaa			8322
Ala Ile Phe Gln Lys His Arg Ile Glu Gln Trp Lys Thr Trp Met Glu			
2650	2655	2660	2665
gag ctc atc tgt aac acc aca gta gag cgt tgt caa gag ctc tat agg			8370
Glu Leu Ile Cys Asn Thr Thr Val Glu Arg Cys Gln Glu Leu Tyr Arg			
2670	2675	2680	
aaa tat gaa atg caa tat gct ccc cag cca ccc cca aca gtg tgt cag			8418
Lys Tyr Glu Met Gln Tyr Ala Pro Gln Pro Pro Pro Thr Val Cys Gln			
2685	2690	2695	
ttc atc act gcc act gaa atg acc ctg cag cga tac gca gca gac atc			8466
Phe Ile Thr Ala Thr Glu Met Thr Leu Gln Arg Tyr Ala Ala Asp Ile			
2700	2705	2710	
aac agc aga ctt att aga caa gtg gaa cgc ttg aaa cag gaa gct gtc			8514
Asn Ser Arg Leu Ile Arg Gln Val Glu Arg Leu Lys Gln Glu Ala Val			
2715	2720	2725	
act gtg cca gtt tgt gaa gat cag ttg aaa gaa att gaa cgt tgc att			8562
Thr Val Pro Val Cys Glu Asp Gln Leu Lys Glu Ile Glu Arg Cys Ile			
2730	2735	2740	2745
aaa gtt ttc ctt cat gag aat gga gaa gaa gga tct ttg agt cta gca			8610
Lys Val Phe Leu His Glu Asn Gly Glu Glu Gly Ser Leu Ser Leu Ala			
2750	2755	2760	
agt gtt att att tct gcc ctt tgt acc ctt aca agg cgt aac ctg atg			8658
Ser Val Ile Ile Ser Ala Leu Cys Thr Leu Thr Arg Arg Asn Leu Met			
2765	2770	2775	
atg gaa ggt gca gcg tca agt gct gga gaa cag ctg gtt gat ctg act			8706
Met Glu Gly Ala Ala Ser Ser Ala Gly Glu Gln Leu Val Asp Leu Thr			
2780	2785	2790	

tct	cgg	gat	gga	gcc	tgg	ttc	ttg	gag	gaa	ctc	tgc	agt	atg	agc	gga	8754
Ser	Arg	Asp	Gly	Ala	Trp	Phe	Leu	Glu	Glu	Leu	Cys	Ser	Met	Ser	Gly	
2795			2800				2805									
aac	gtc	acc	tgc	ttg	gtt	cag	tta	ctg	aag	cag	tgc	cac	ctg	gtg	cca	8802
Asn	Val	Thr	Cys	Leu	Val	Gln	Leu	Leu	Lys	Gln	Cys	His	Leu	Val	Pro	
2810			2815				2820					2825				
cag	gac	tta	gat	atc	ccg	aac	ccc	atg	gaa	gcg	tct	gag	aca	gtt	cac	8850
Gln	Asp	Leu	Asp	Ile	Pro	Asn	Pro	Met	Glu	Ala	Ser	Glu	Thr	Val	His	
			2830				2835					2840				
tta	gcc	aat	gga	gtg	tat	acc	tca	ctt	cag	gaa	ttg	aat	tcg	aat	ttc	8898
Leu	Ala	Asn	Gly	Val	Tyr	Thr	Ser	Leu	Gln	Glu	Leu	Asn	Ser	Asn	Phe	
2845							2850					2855				
cgg	caa	atc	ata	ttt	cca	gaa	gca	ctt	cga	tgt	tta	atg	aaa	ggg	gaa	8946
Arg	Gln	Ile	Ile	Phe	Pro	Glu	Ala	Leu	Arg	Cys	Leu	Met	Lys	Gly	Glu	
2860							2865					2870				
tac	acg	tta	gaa	agt	atg	ctg	cat	gaa	ctg	gac	ggt	ctt	att	gag	cag	8994
Tyr	Thr	Leu	Glu	Ser	Met	Leu	His	Glu	Leu	Asp	Gly	Leu	Ile	Glu	Gln	
2875							2880					2885				
acc	acc	gat	ggc	gtt	ccc	ctg	cag	act	cta	gtg	gaa	tct	ctt	cag	gcc	9042
Thr	Thr	Asp	Gly	Val	Pro	Leu	Gln	Thr	Leu	Val	Glu	Ser	Leu	Gln	Ala	
2890							2895					2900			2905	
tac	tta	aga	aac	gca	gct	atg	gga	ctg	gaa	gaa	gaa	aca	cat	gct	cat	9090
Tyr	Leu	Arg	Asn	Ala	Ala	Met	Gly	Leu	Glu	Glu	Glu	Thr	His	Ala	His	
			2910				2915					2920				
tac	atc	gat	gtt	gcc	aga	cta	cta	cat	gct	cag	tac	ggt	gaa	tta	atc	9138
Tyr	Ile	Asp	Val	Ala	Arg	Leu	Leu	His	Ala	Gln	Tyr	Gly	Glu	Leu	Ile	
2925							2930					2935				
caa	ccg	aga	aat	ggt	tca	gtt	gat	gaa	aca	ccc	aaa	atg	tca	gct	ggc	9186
Gln	Pro	Arg	Asn	Gly	Ser	Val	Asp	Glu	Thr	Pro	Lys	Met	Ser	Ala	Gly	
2940							2945					2950				
cag	atg	ctt	ttg	gta	gca	ttc	gat	ggc	atg	ttt	gct	caa	gtt	gaa	act	9234
Gln	Met	Leu	Leu	Val	Ala	Phe	Asp	Gly	Met	Phe	Ala	Gln	Val	Glu	Thr	
2955							2960					2965				
gct	ttc	agc	tta	tta	gtt	gaa	aag	ttg	aac	aag	atg	gaa	att	ccc	ata	9282
Ala	Phe	Ser	Leu	Leu	Val	Glu	Lys	Leu	Asn	Lys	Met	Glu	Ile	Pro	Ile	

2970	2975	2980	2985	
gct tgg cga aag att gac atc ata agg gaa gcc agg agt act caa gtt				9330
Ala Trp Arg Lys Ile Asp Ile Ile Arg Glu Ala Arg Ser Thr Gln Val				
2990	2995	3000		
aat ttt ttt gat gat gat aat cac cgg cag gtg cta gaa gag att ttc				9378
Asn Phe Phe Asp Asp Asp Asn His Arg Gln Val Leu Glu Glu Ile Phe				
3005	3010	3015		
ttt cta aaa aga cta cag act att aag gag ttc ttc agg ctc tgt ggt				9426
Phe Leu Lys Arg Leu Gln Thr Ile Lys Glu Phe Phe Arg Leu Cys Gly				
3020	3025	3030		
acc ttt tct aaa aca ttg tca gga tca agt tca ctt gaa gat cag aat				9474
Thr Phe Ser Lys Thr Leu Ser Gly Ser Ser Ser Leu Glu Asp Gln Asn				
3035	3040	3045		
act gtg aat ggg cct gta cag att gtc aat gtg aaa acc ctt ttt aga				9522
Thr Val Asn Gly Pro Val Gln Ile Val Asn Val Lys Thr Leu Phe Arg				
3050	3055	3060	3065	
aac tct tgt ttc agt gaa gac caa atg gcc aaa cct atc aag gca ttc				9570
Asn Ser Cys Phe Ser Glu Asp Gln Met Ala Lys Pro Ile Lys Ala Phe				
3070	3075	3080		
aca gct gac ttt gtg agg cag ctc ttg ata ggg cta ccc aac caa gcc				9618
Thr Ala Asp Phe Val Arg Gln Leu Leu Ile Gly Leu Pro Asn Gln Ala				
3085	3090	3095		
ctc gga ctc aca ctg tgc agt ttt atc agt gct ctg ggt gta gac atc				9666
Leu Gly Leu Thr Leu Cys Ser Phe Ile Ser Ala Leu Gly Val Asp Ile				
3100	3105	3110		
att gct caa gta gag gca aag gac ttt ggt gcc gaa agc aaa gtt tct				9714
Ile Ala Gln Val Glu Ala Lys Asp Phe Gly Ala Glu Ser Lys Val Ser				
3115	3120	3125		
gtt gat gat ctc tgt aag aaa gcg gtg gaa cat aac atc cag ata ggg				9762
Val Asp Asp Leu Cys Lys Lys Ala Val Glu His Asn Ile Gln Ile Gly				
3130	3135	3140	3145	
aag ttc tct cag ctg gtt atg aac agg gca act gtg tta gca agt tct				9810
Lys Phe Ser Gln Leu Val Met Asn Arg Ala Thr Val Leu Ala Ser Ser				
3150	3155	3160		

tac gac act gcc tgg aag aag cat gac ttg gtg cga agg cta gaa acc	9858
Tyr Asp Thr Ala Trp Lys Lys His Asp Leu Val Arg Arg Leu Glu Thr	
3165 3170 3175	
agt att tct tct tgt aag aca agc ctg cag cgg gtt cag ctg cat att	9906
Ser Ile Ser Ser Cys Lys Thr Ser Leu Gln Arg Val Gln Leu His Ile	
3180 3185 3190	
gcc atg ttt cag tgg caa cat gaa gat cta ctt atc aat aga cca caa	9954
Ala Met Phe Gln Trp Gln His Glu Asp Leu Leu Ile Asn Arg Pro Gln	
3195 3200 3205	
gcc atg tca gtc aca cct ccc cca cgg tct gct atc cta acc agc atg	10002
Ala Met Ser Val Thr Pro Pro Pro Arg Ser Ala Ile Leu Thr Ser Met	
3210 3215 3220 3225	
aaa aag aag ctg cat acc ctg agc cag att gaa act tct att gcg aca	10050
Lys Lys Lys Leu His Thr Leu Ser Gln Ile Glu Thr Ser Ile Ala Thr	
3230 3235 3240	
gtt cag gag aag cta gct gca ctt gaa tca agt att gaa cag cga ctc	10098
Val Gln Glu Lys Leu Ala Ala Leu Glu Ser Ser Ile Glu Gln Arg Leu	
3245 3250 3255	
aag tgg gca ggt ggt gcc aac cct gca ttg gcc cct gta cta caa gat	10146
Lys Trp Ala Gly Gly Ala Asn Pro Ala Leu Ala Pro Val Leu Gln Asp	
3260 3265 3270	
ttt gaa gca acg ata gct gaa aga aga aat ctt gtc ctt aaa gag agc	10194
Phe Glu Ala Thr Ile Ala Glu Arg Arg Asn Leu Val Leu Lys Glu Ser	
3275 3280 3285	
caa aga gca agt cag gtc aca ttt ctc tgc agc aat atc att cat ttt	10242
Gln Arg Ala Ser Gln Val Thr Phe Leu Cys Ser Asn Ile Ile His Phe	
3290 3295 3300 3305	
gaa agt tta cga aca aga act gca gaa gcc tta aac ctg gat gcg gcg	10290
Glu Ser Leu Arg Thr Arg Thr Ala Glu Ala Leu Asn Leu Asp Ala Ala	
3310 3315 3320	
tta ttt gaa cta atc aag cga tgt cag cag atg tgt tcg ttt gca tca	10338
Leu Phe Glu Leu Ile Lys Arg Cys Gln Gln Met Cys Ser Phe Ala Ser	
3325 3330 3335	
cag ttt aac agt tca gtg tct gag tta gag ctt cgt tta tta cag aga	10386
Gln Phe Asn Ser Ser Val Ser Glu Leu Glu Leu Arg Leu Leu Gln Arg	

3340	3345	3350	
gtg gac act ggt ctt gaa cat cct att ggc agc tct gaa tgg ctt ttg			10434
Val Asp Thr Gly Leu Glu His Pro Ile Gly Ser Ser Glu Trp Leu Leu			
3355	3360	3365	
tca gca cac aaa cag ttg acc cag gat atg tct act cag agg gca att			10482
Ser Ala His Lys Gln Leu Thr Gln Asp Met Ser Thr Gln Arg Ala Ile			
3370	3375	3380	3385
cag aca gag aaa gag cag cag ata gaa acg gtc tgt gaa aca att cag			10530
Gln Thr Glu Lys Glu Gln Gln Ile Glu Thr Val Cys Glu Thr Ile Gln			
3390	3395	3400	
aat ctg gtt gat aat ata aag act gtg ctc act ggt cat aac cga cag			10578
Asn Leu Val Asp Asn Ile Lys Thr Val Leu Thr Gly His Asn Arg Gln			
3405	3410	3415	
ctt gga gat gtc aaa cat ctc ttg aaa gct atg gct aag gat gaa gaa			10626
Leu Gly Asp Val Lys His Leu Leu Lys Ala Met Ala Lys Asp Glu Glu			
3420	3425	3430	
gct gct ctg gca gat ggt gaa gat gtt ccc tat gag aac agt gtt agg			10674
Ala Ala Leu Ala Asp Gly Glu Asp Val Pro Tyr Glu Asn Ser Val Arg			
3435	3440	3445	
cag ttt ttg ggt gaa tat aaa tca tgg caa gac aac att caa aca gtt			10722
Gln Phe Leu Gly Glu Tyr Lys Ser Trp Gln Asp Asn Ile Gln Thr Val			
3450	3455	3460	3465
cta ttt aca tta gtc cag gct atg ggt cag gtt cga agt caa gaa cac			10770
Leu Phe Thr Leu Val Gln Ala Met Gly Gln Val Arg Ser Gln Glu His			
3470	3475	3480	
gtt gaa atg ctc cag gaa atc act ccc acc ttg aaa gaa ctg aaa aca			10818
Val Glu Met Leu Gln Glu Ile Thr Pro Thr Leu Lys Glu Leu Lys Thr			
3485	3490	3495	
caa agt cag agt atc tat aat aat tta gtg agt ttt gca tca ccc tta			10866
Gln Ser Gln Ser Ile Tyr Asn Asn Leu Val Ser Phe Ala Ser Pro Leu			
3500	3505	3510	
gtc acc gat gca aca aat gaa tgt tcg agt cca acg tca tct gct act			10914
Val Thr Asp Ala Thr Asn Glu Cys Ser Ser Pro Thr Ser Ser Ala Thr			
3515	3520	3525	

tat cag cca tcc ttc gct gca gca gtc cgg agt aac act ggc cag aag	10962
Tyr Gln Pro Ser Phe Ala Ala Ala Val Arg Ser Asn Thr Gly Gln Lys	
3530 3535 3540 3545	
act cag cct gat gtc atg tca cag aat gct aga aag ctg atc cag aaa	11010
Thr Gln Pro Asp Val Met Ser Gln Asn Ala Arg Lys Leu Ile Gln Lys	
3550 3555 3560	
aat ctt gct aca tca gct gat act cca cca agc acc gtt cca gga act	11058
Asn Leu Ala Thr Ser Ala Asp Thr Pro Pro Ser Thr Val Pro Gly Thr	
3565 3570 3575	
ggc aag agt gtt gct tgt agt cct aaa aag gca gtc aga gac cct aaa	11106
Gly Lys Ser Val Ala Cys Ser Pro Lys Lys Ala Val Arg Asp Pro Lys	
3580 3585 3590	
act ggg aaa gcg gtg caa gag aga aac tcc tat gca gtg agt gtg tgg	11154
Thr Gly Lys Ala Val Gln Glu Arg Asn Ser Tyr Ala Val Ser Val Trp	
3595 3600 3605	
aag aga gtg aaa gcc aag tta gag ggc cga gat gtt gat ccg aat agg	11202
Lys Arg Val Lys Ala Lys Leu Glu Gly Arg Asp Val Asp Pro Asn Arg	
3610 3615 3620 3625	
agg atg tca gtt gct gaa cag gtt gac tat gtc att aag gaa gca act	11250
Arg Met Ser Val Ala Glu Gln Val Asp Tyr Val Ile Lys Glu Ala Thr	
3630 3635 3640	
aat cta gat aac ttg gct cag ctg tat gaa ggt tgg aca gcc tgg gtg	11298
Asn Leu Asp Asn Leu Ala Gln Leu Tyr Glu Gly Trp Thr Ala Trp Val	
3645 3650 3655	
tga atggcaagac agtagatgag tctggttaag cgaggtcaga catccaccag	11351
aatcaactca gcctcaggca tccaaagcca caccacagtc ggtggtgatg caactggggg	11411
cttactctga ggaaacctag gaaatctcgg tgcactagga agtgaatccc gcaggacagc	11471
tgcactcagg gatacgccca acaccatggc ctgcaacccc aggggtcaagg gtgaaggaaa	11531
gcaaagctca ccgcctgaac acggagattg tctttctgcc acagaacagc agcagacgtg	11591
tcggggaggtt agctgcggaa agaaatcggg atgccgcgga gcacagagtg atttggaact	11651
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agaaaactgg ggtcgcgaag aaatcacagc caaggaagat ttgatgcatt cagattctcg 11771
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13110

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<211> 3657

<212> PRT

<213> Homo sapiens

<400> 2

Met	Ser	Arg	Arg	Ala	Pro	Gly	Ser	Arg	Leu	Ser	Ser	Gly	Gly	Thr	Asn
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Tyr	Ser	Arg	Ser	Trp	Asn	Asp	Trp	Gln	Pro	Arg	Thr	Asp	Ser	Ala	Ser
			20					25					30		
Ala	Asp	Pro	Gly	Asn	Leu	Lys	Tyr	Ser	Ser	Ser	Arg	Asp	Arg	Gly	Gly
		35					40					45			
Ser	Ser	Ser	Tyr	Gly	Leu	Gln	Pro	Ser	Asn	Ser	Ala	Val	Val	Ser	Arg
	50					55					60				
Gln	Arg	His	Asp	Asp	Thr	Arg	Val	His	Ala	Asp	Ile	Gln	Asn	Asp	Glu
65					70					75				80	
Lys	Gly	Gly	Tyr	Ser	Val	Asn	Gly	Gly	Ser	Gly	Glu	Asn	Thr	Tyr	Gly
				85					90					95	
Arg	Lys	Ser	Leu	Gly	Gln	Glu	Leu	Arg	Val	Asn	Asn	Val	Thr	Ser	Pro
			100					105					110		
Glu	Phe	Thr	Ser	Val	Gln	His	Gly	Ser	Arg	Ala	Leu	Ala	Thr	Lys	Asp
		115					120					125			
Met	Arg	Lys	Ser	Gln	Glu	Arg	Ser	Met	Ser	Tyr	Ser	Asp	Glu	Ser	Arg
	130					135					140				
Leu	Ser	Asn	Leu	Leu	Arg	Arg	Ile	Thr	Arg	Glu	Asp	Asp	Arg	Asp	Arg
145					150					155				160	
Arg	Leu	Ala	Thr	Val	Lys	Gln	Leu	Lys	Glu	Phe	Ile	Gln	Gln	Pro	Glu
				165					170					175	
Asn	Lys	Leu	Val	Leu	Val	Lys	Gln	Leu	Asp	Asn	Ile	Leu	Ala	Ala	Val
		180					185						190		
His	Asp	Val	Leu	Asn	Glu	Ser	Ser	Lys	Leu	Leu	Gln	Glu	Leu	Arg	Gln
		195					200					205			
Glu	Gly	Ala	Cys	Cys	Leu	Gly	Leu	Leu	Cys	Ala	Ser	Leu	Ser	Tyr	Glu
	210					215					220				
Ala	Glu	Lys	Ile	Phe	Lys	Trp	Ile	Phe	Ser	Lys	Phe	Ser	Ser	Ser	Ala
225					230					235				240	
Lys	Asp	Glu	Val	Lys	Leu	Leu	Tyr	Leu	Cys	Ala	Thr	Tyr	Lys	Ala	Leu
				245					250					255	
Glu	Thr	Val	Gly	Glu	Lys	Lys	Ala	Phe	Ser	Ser	Val	Met	Gln	Leu	Val
		260					265						270		
Met	Thr	Ser	Leu	Gln	Ser	Ile	Leu	Glu	Asn	Val	Asp	Thr	Pro	Glu	Leu
		275					280					285			

Leu	Cys	Lys	Cys	Val	Lys	Cys	Ile	Leu	Leu	Val	Ala	Arg	Cys	Tyr	Pro	290	295	300
His	Ile	Phe	Ser	Thr	Asn	Phe	Arg	Asp	Thr	Val	Asp	Ile	Leu	Val	Gly	305	310	315
Trp	His	Ile	Asp	His	Thr	Gln	Lys	Pro	Ser	Leu	Thr	Gln	Gln	Val	Ser	325	330	335
Gly	Trp	Leu	Gln	Ser	Leu	Glu	Pro	Phe	Trp	Val	Ala	Asp	Leu	Ala	Phe	340	345	350
Ser	Thr	Thr	Leu	Leu	Gly	Gln	Phe	Leu	Glu	Asp	Met	Glu	Ala	Tyr	Ala	355	360	365
Glu	Asp	Leu	Ser	His	Val	Ala	Ser	Gly	Glu	Ser	Val	Asp	Glu	Asp	Val	370	375	380
Pro	Pro	Pro	Ser	Val	Ser	Leu	Pro	Lys	Leu	Ala	Ala	Leu	Leu	Arg	Val	385	390	395
Phe	Ser	Thr	Val	Val	Arg	Ser	Ile	Gly	Glu	Arg	Phe	Ser	Pro	Ile	Arg	405	410	415
Gly	Pro	Pro	Ile	Thr	Glu	Ala	Tyr	Val	Thr	Asp	Val	Leu	Tyr	Arg	Val	420	425	430
Met	Arg	Cys	Val	Thr	Ala	Ala	Asn	Gln	Val	Phe	Phe	Ser	Glu	Ala	Val	435	440	445
Leu	Thr	Ala	Ala	Asn	Glu	Cys	Val	Gly	Val	Leu	Leu	Gly	Ser	Leu	Asp	450	455	460
Pro	Ser	Met	Thr	Ile	His	Cys	Asp	Met	Val	Ile	Thr	Tyr	Gly	Leu	Asp	465	470	475
Gln	Leu	Glu	Asn	Cys	Gln	Thr	Cys	Gly	Thr	Asp	Tyr	Ile	Ile	Ser	Val	485	490	495
Leu	Asn	Leu	Leu	Thr	Leu	Ile	Val	Glu	Gln	Ile	Asn	Thr	Lys	Leu	Pro	500	505	510
Ser	Ser	Phe	Val	Glu	Lys	Leu	Phe	Ile	Pro	Ser	Ser	Lys	Leu	Leu	Phe	515	520	525
Leu	Arg	Tyr	His	Lys	Glu	Lys	Glu	Val	Val	Ala	Val	Ala	His	Ala	Val	530	535	540
Tyr	Gln	Ala	Val	Leu	Ser	Leu	Lys	Asn	Ile	Pro	Val	Leu	Glu	Thr	Ala	545	550	555
Tyr	Lys	Leu	Ile	Leu	Gly	Glu	Met	Thr	Cys	Ala	Leu	Asn	Asn	Leu	Leu	565	570	575
His	Ser	Leu	Gln	Leu	Pro	Glu	Ala	Cys	Ser	Glu	Ile	Lys	His	Glu	Ala	580	585	590
Phe	Lys	Asn	His	Val	Phe	Asn	Val	Asp	Asn	Ala	Lys	Phe	Val	Val	Lys	595	600	605
Phe	Asp	Leu	Ser	Ala	Leu	Thr	Thr	Ile	Gly	Asn	Ala	Lys	Asn	Ser	Leu	610	615	620
Ile	Gly	Met	Trp	Ala	Leu	Ser	Pro	Thr	Val	Phe	Ala	Leu	Leu	Ser	Lys	625	630	635
Asn	Leu	Met	Ile	Val	His	Ser	Asp	Leu	Ala	Val	His	Phe	Pro	Ala	Ile	645	650	655

Gln Tyr Ala Val Leu Tyr Thr Leu Tyr Ser His Cys Thr Arg His Asp	660	665	670
His Phe Ile Ser Ser Ser Leu Ser Ser Ala Ser Pro Ser Leu Phe Asp	675	680	685
Gly Ala Val Ile Ser Thr Val Thr Thr Ala Thr Lys Lys His Phe Ser	690	695	700
Ile Ile Leu Asn Leu Leu Gly Ile Leu Leu Lys Lys Asp Asn Leu Asn	705	710	715
Gln Asp Thr Arg Lys Leu Leu Met Thr Trp Ala Leu Glu Ala Ala Val	725	730	735
Leu Met Arg Lys Ser Glu Thr Tyr Ala Pro Leu Phe Ser Leu Pro Ser	740	745	750
Phe His Lys Phe Cys Lys Gly Leu Leu Ala Asn Thr Leu Val Glu Asp	755	760	765
Val Asn Ile Cys Leu Gln Ala Cys Ser Ser Leu His Ala Leu Ser Ser	770	775	780
Ser Leu Pro Asp Asp Leu Leu Gln Arg Cys Val Asp Val Cys Arg Val	785	790	795
Gln Leu Val His Ser Gly Thr Arg Ile Arg Gln Ala Phe Gly Lys Leu	805	810	815
Leu Lys Ser Ile Pro Leu Asp Val Val Leu Ser Asn Asn Asn His Thr	820	825	830
Glu Ile Gln Glu Ile Ser Leu Ala Leu Arg Ser His Met Ser Lys Ala	835	840	845
Pro Ser Asn Thr Phe His Pro Gln Asp Phe Ser Asp Val Ile Ser Phe	850	855	860
Ile Leu Tyr Gly Asn Ser His Arg Thr Gly Lys Asp Asn Trp Leu Glu	865	870	875
Arg Leu Phe Tyr Ser Cys Gln Arg Leu Asp Lys Arg Asp Gln Ser Thr	885	890	895
Ile Pro Arg Asn Leu Leu Lys Thr Asp Ala Val Leu Trp Gln Trp Ala	900	905	910
Ile Trp Glu Ala Ala Gln Phe Thr Val Leu Ser Lys Leu Arg Thr Pro	915	920	925
Leu Gly Arg Ala Gln Asp Thr Phe Gln Thr Ile Glu Gly Ile Ile Arg	930	935	940
Ser Leu Ala Ala His Thr Leu Asn Pro Asp Gln Asp Val Ser Gln Trp	945	950	955
Thr Thr Ala Asp Asn Asp Glu Gly His Gly Asn Asn Gln Leu Arg Leu	965	970	975
Val Leu Leu Leu Gln Tyr Leu Glu Asn Leu Glu Lys Leu Met Tyr Asn	980	985	990
Ala Tyr Glu Gly Cys Ala Asn Ala Leu Thr Ser Pro Pro Lys Val Ile	995	1000	1005
Arg Thr Phe Phe Tyr Thr Asn Arg Gln Thr Cys Gln Asp Trp Leu Thr	1010	1015	1020

Arg Ile Arg Leu Ser Ile Met Arg Val Gly Leu Leu Ala Gly Gln Pro
 1025 1030 1035 1040
 Ala Val Thr Val Arg His Gly Phe Asp Leu Leu Thr Glu Met Lys Thr
 1045 1050 1055
 Thr Ser Leu Ser Gln Gly Asn Glu Leu Glu Val Thr Ile Met Met Val
 1060 1065 1070
 Val Glu Ala Leu Cys Glu Leu His Cys Pro Glu Ala Ile Gln Gly Ile
 1075 1080 1085
 Ala Val Trp Ser Ser Ser Ile Val Gly Lys Asn Leu Leu Trp Ile Asn
 1090 1095 1100
 Ser Val Ala Gln Gln Ala Glu Gly Arg Phe Glu Lys Ala Ser Val Glu
 1105 1110 1115 1120
 Tyr Gln Glu His Leu Cys Ala Met Thr Gly Val Asp Cys Cys Ile Ser
 1125 1130 1135
 Ser Phe Asp Lys Ser Val Leu Thr Leu Ala Asn Ala Gly Arg Asn Ser
 1140 1145 1150
 Ala Ser Pro Lys His Ser Leu Asn Gly Glu Ser Arg Lys Thr Val Leu
 1155 1160 1165
 Ser Lys Pro Thr Asp Ser Ser Pro Glu Val Ile Asn Tyr Leu Gly Asn
 1170 1175 1180
 Lys Ala Cys Glu Phe Tyr Ile Ser Ile Ala Asp Trp Ala Ala Val Gln
 1185 1190 1195 1200
 Glu Trp Gln Asn Ala Ile His Asp Leu Lys Lys Ser Thr Ser Ser Thr
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 Ser Leu Asn Leu Lys Ala Asp Phe Asn Tyr Ile Lys Ser Leu Ser Ser
 1220 1225 1230
 Phe Glu Ser Gly Lys Phe Val Glu Cys Thr Glu Gln Leu Glu Leu Leu
 1235 1240 1245
 Pro Gly Glu Asn Ile Asn Leu Leu Ala Gly Gly Ser Lys Glu Lys Ile
 1250 1255 1260
 Asp Met Lys Lys Leu Leu Pro Asn Met Leu Ser Pro Asp Pro Arg Glu
 1265 1270 1275 1280
 Leu Gln Lys Ser Ile Glu Val Gln Leu Leu Arg Ser Ser Val Cys Leu
 1285 1290 1295
 Ala Thr Ala Leu Asn Pro Ile Glu Gln Asp Gln Lys Trp Gln Ser Ile
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 Thr Glu Asn Val Val Lys Tyr Leu Lys Gln Thr Ser Arg Ile Ala Ile
 1315 1320 1325
 Gly Pro Leu Arg Leu Ser Thr Leu Thr Val Ser Gln Ser Leu Pro Val
 1330 1335 1340
 Leu Ser Thr Leu Gln Leu Tyr Cys Ser Ser Ala Leu Glu Asn Thr Val
 1345 1350 1355 1360
 Ser Asn Arg Leu Ser Thr Glu Asp Cys Leu Ile Pro Leu Phe Ser Glu
 1365 1370 1375
 Ala Leu Arg Ser Cys Lys Gln His Asp Val Arg Pro Trp Met Gln Ala
 1380 1385 1390

Leu Arg Tyr Thr Met Tyr Gln Asn Gln Leu Leu Glu Lys Ile Lys Glu
 1395 1400 1405
 Gln Thr Val Pro Ile Arg Ser His Leu Met Glu Leu Gly Leu Thr Ala
 1410 1415 1420
 Ala Lys Phe Ala Arg Lys Arg Gly Asn Val Ser Leu Ala Thr Arg Leu
 1425 1430 1435 1440
 Leu Ala Gln Cys Ser Glu Val Gln Leu Gly Lys Thr Thr Thr Ala Gln
 1445 1450 1455
 Asp Leu Val Gln His Phe Lys Lys Leu Ser Thr Gln Gly Gln Val Asp
 1460 1465 1470
 Glu Lys Trp Gly Pro Glu Leu Asp Ile Glu Lys Thr Lys Leu Leu Tyr
 1475 1480 1485
 Thr Ala Gly Gln Ser Thr His Ala Met Glu Met Leu Ser Ser Cys Ala
 1490 1495 1500
 Ile Ser Phe Cys Lys Ser Val Lys Ala Glu Tyr Ala Val Ala Lys Ser
 1505 1510 1515 1520
 Ile Leu Thr Leu Ala Lys Trp Ile Gln Ala Glu Trp Lys Glu Ile Ser
 1525 1530 1535
 Gly Gln Leu Lys Gln Val Tyr Arg Ala Gln His Gln Gln Asn Phe Thr
 1540 1545 1550
 Gly Leu Ser Thr Leu Ser Lys Asn Ile Leu Thr Leu Ile Glu Leu Pro
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 Ser Val Asn Thr Met Glu Glu Glu Tyr Pro Arg Ile Glu Ser Glu Ser
 1570 1575 1580
 Thr Val His Ile Gly Val Gly Glu Pro Asp Phe Ile Leu Gly Gln Leu
 1585 1590 1595 1600
 Tyr His Leu Ser Ser Val Gln Ala Pro Glu Val Ala Lys Ser Trp Ala
 1605 1610 1615
 Ala Leu Ala Ser Trp Ala Tyr Arg Trp Gly Arg Lys Val Val Asp Asn
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 Ala Ser Gln Gly Glu Gly Val Arg Leu Leu Pro Arg Glu Lys Ser Glu
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 Val Gln Asn Leu Leu Pro Asp Thr Ile Thr Glu Glu Glu Lys Glu Arg
 1650 1655 1660
 Ile Tyr Gly Ile Leu Gly Gln Ala Val Cys Arg Pro Ala Gly Ile Gln
 1665 1670 1675 1680
 Asp Glu Asp Ile Thr Leu Gln Ile Thr Glu Ser Glu Asp Asn Glu Glu
 1685 1690 1695
 Asp Asp Met Val Asp Val Ile Trp Arg Gln Leu Ile Ser Ser Cys Pro
 1700 1705 1710
 Trp Leu Ser Glu Leu Asp Glu Ser Ala Thr Glu Gly Val Ile Lys Val
 1715 1720 1725
 Trp Arg Lys Val Val Asp Arg Ile Phe Ser Leu Tyr Lys Leu Ser Cys
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 Ser Ala Tyr Phe Thr Phe Leu Lys Leu Asn Ala Gly Gln Ile Pro Leu
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Asp	Glu	Asp	Asp	Pro	Arg	Leu	His	Leu	Ser	His	Arg	Val	Glu	Gln	Ser	1765	1770	1775
Thr	Asp	Asp	Met	Ile	Val	Met	Ala	Thr	Leu	Arg	Leu	Leu	Arg	Leu	Leu	1780	1785	1790
Val	Lys	His	Ala	Gly	Glu	Leu	Arg	Gln	Tyr	Leu	Glu	His	Gly	Leu	Glu	1795	1800	1805
Thr	Thr	Pro	Thr	Ala	Pro	Trp	Arg	Gly	Ile	Ile	Pro	Gln	Leu	Phe	Ser	1810	1815	1820
Arg	Leu	Asn	His	Pro	Glu	Val	Tyr	Val	Arg	Gln	Ser	Ile	Cys	Asn	Leu	1825	1830	1835
Leu	Cys	Arg	Val	Ala	Gln	Asp	Ser	Pro	His	Leu	Ile	Leu	Tyr	Pro	Ala	1845	1850	1855
Ile	Val	Gly	Thr	Ile	Ser	Leu	Ser	Ser	Glu	Ser	Gln	Ala	Ser	Gly	Asn	1860	1865	1870
Lys	Phe	Ser	Thr	Ala	Ile	Pro	Thr	Leu	Leu	Gly	Asn	Ile	Gln	Gly	Glu	1875	1880	1885
Glu	Leu	Leu	Val	Ser	Glu	Cys	Glu	Gly	Gly	Ser	Pro	Pro	Ala	Ser	Gln	1890	1895	1900
Asp	Ser	Asn	Lys	Asp	Glu	Pro	Lys	Ser	Gly	Leu	Asn	Glu	Asp	Gln	Ala	1905	1910	1915
Met	Met	Gln	Asp	Cys	Tyr	Ser	Lys	Ile	Val	Asp	Lys	Leu	Ser	Ser	Ala	1925	1930	1935
Asn	Pro	Thr	Met	Val	Leu	Gln	Val	Gln	Met	Leu	Val	Ala	Glu	Leu	Arg	1940	1945	1950
Arg	Val	Thr	Val	Leu	Trp	Asp	Glu	Leu	Trp	Leu	Gly	Val	Leu	Leu	Gln	1955	1960	1965
Gln	His	Met	Tyr	Val	Leu	Arg	Arg	Ile	Gln	Gln	Leu	Glu	Asp	Glu	Val	1970	1975	1980
Lys	Arg	Val	Gln	Asn	Asn	Asn	Thr	Leu	Arg	Lys	Glu	Glu	Lys	Ile	Ala	1985	1990	1995
Ile	Met	Arg	Glu	Arg	His	Thr	Ala	Leu	Met	Lys	Pro	Ile	Val	Phe	Ala	2005	2010	2015
Leu	Glu	His	Val	Arg	Ser	Ile	Thr	Ala	Ala	Pro	Ala	Glu	Thr	Pro	His	2020	2025	2030
Glu	Lys	Trp	Phe	Gln	Asp	Asn	Tyr	Gly	Asp	Ala	Ile	Glu	Asn	Ala	Leu	2035	2040	2045
Glu	Lys	Leu	Lys	Thr	Pro	Leu	Asn	Pro	Ala	Lys	Pro	Gly	Ser	Ser	Trp	2050	2055	2060
Ile	Pro	Phe	Lys	Glu	Ile	Met	Leu	Ser	Leu	Gln	Gln	Arg	Ala	Gln	Lys	2065	2070	2075
Arg	Ala	Ser	Tyr	Ile	Leu	Arg	Leu	Glu	Glu	Ile	Ser	Pro	Trp	Leu	Ala	2085	2090	2095
Ala	Met	Thr	Asn	Thr	Glu	Ile	Ala	Leu	Pro	Gly	Glu	Val	Ser	Ala	Arg	2100	2105	2110
Asp	Thr	Val	Thr	Ile	His	Ser	Val	Gly	Gly	Thr	Ile	Thr	Ile	Leu	Pro	2115	2120	2125

Thr Lys Thr Lys Pro Lys Lys Leu Leu Phe Leu Gly Ser Asp Gly Lys
 2130 2135 2140
 Ser Tyr Pro Tyr Leu Phe Lys Gly Leu Glu Asp Leu His Leu Asp Glu
 2145 2150 2155 2160
 Arg Ile Met Gln Phe Leu Ser Ile Val Asn Thr Met Phe Ala Thr Ile
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 Asn Arg Gln Glu Thr Pro Arg Phe His Ala Arg His Tyr Ser Val Thr
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 Pro Leu Gly Thr Arg Ser Gly Leu Ile Gln Trp Val Asp Gly Ala Thr
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 Pro Leu Phe Gly Leu Tyr Lys Arg Trp Gln Gln Arg Glu Ala Ala Leu
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 Gln Ala Gln Lys Ala Gln Asp Ser Tyr Gln Thr Pro Gln Asn Pro Gly
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 Ile Val Pro Arg Pro Ser Glu Leu Tyr Tyr Ser Lys Ile Gly Pro Ala
 2245 2250 2255
 Leu Lys Thr Val Gly Leu Ser Leu Asp Val Ser Arg Arg Asp Trp Pro
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 Leu His Val Met Lys Ala Val Leu Glu Glu Leu Met Glu Ala Thr Pro
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 Pro Asn Leu Leu Ala Lys Glu Leu Trp Ser Ser Cys Thr Thr Pro Asp
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 Glu Trp Trp Arg Val Thr Gln Ser Tyr Ala Arg Ser Thr Ala Val Met
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 Ser Met Val Gly Tyr Ile Ile Gly Leu Gly Asp Arg His Leu Asp Asn
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 Val Leu Ile Asp Met Thr Thr Gly Glu Val Val His Ile Asp Tyr Asn
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 Val Cys Phe Glu Lys Gly Lys Ser Leu Arg Val Pro Glu Lys Val Pro
 2355 2360 2365
 Phe Arg Met Thr Gln Asn Ile Glu Thr Ala Leu Gly Val Thr Gly Val
 2370 2375 2380
 Glu Gly Val Phe Arg Leu Ser Cys Glu Gln Val Leu His Ile Met Arg
 2385 2390 2395 2400
 Arg Gly Arg Glu Thr Leu Leu Thr Leu Leu Glu Ala Phe Val Tyr Asp
 2405 2410 2415
 Pro Leu Val Asp Trp Thr Ala Gly Gly Glu Ala Gly Phe Ala Gly Ala
 2420 2425 2430
 Val Tyr Gly Gly Gly Gly Gln Gln Ala Glu Ser Lys Gln Ser Lys Arg
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 Glu Met Glu Arg Glu Ile Thr Arg Ser Leu Phe Ser Ser Arg Val Ala
 2450 2455 2460
 Glu Ile Lys Val Asn Trp Phe Lys Asn Arg Asp Glu Met Leu Val Val
 2465 2470 2475 2480
 Leu Pro Lys Leu Asp Gly Ser Leu Asp Glu Tyr Leu Ser Leu Gln Glu
 2485 2490 2495

Gln Leu Thr Asp Val Glu Lys Leu Gln Gly Lys Leu Leu Glu Glu Ile
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 Glu Phe Leu Glu Gly Ala Glu Gly Val Asp His Pro Ser His Thr Leu
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 Gln His Arg Tyr Ser Glu His Thr Gln Leu Gln Thr Gln Gln Arg Ala
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 Val Gln Glu Ala Ile Gln Val Lys Leu Asn Glu Phe Glu Gln Trp Ile
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 Thr His Tyr Gln Ala Ala Phe Asn Asn Leu Glu Ala Thr Gln Leu Ala
 2565 2570 2575
 Ser Leu Leu Gln Glu Ile Ser Thr Gln Met Asp Leu Gly Pro Pro Ser
 2580 2585 2590
 Tyr Val Pro Ala Thr Ala Phe Leu Gln Asn Ala Gly Gln Ala His Leu
 2595 2600 2605
 Ile Ser Gln Cys Glu Gln Leu Glu Gly Glu Val Gly Ala Leu Leu Gln
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 Gln Arg Arg Ser Val Leu Arg Gly Cys Leu Glu Gln Leu His His Tyr
 2625 2630 2635 2640
 Ala Thr Val Ala Leu Gln Tyr Pro Lys Ala Ile Phe Gln Lys His Arg
 2645 2650 2655
 Ile Glu Gln Trp Lys Thr Trp Met Glu Glu Leu Ile Cys Asn Thr Thr
 2660 2665 2670
 Val Glu Arg Cys Gln Glu Leu Tyr Arg Lys Tyr Glu Met Gln Tyr Ala
 2675 2680 2685
 Pro Gln Pro Pro Pro Thr Val Cys Gln Phe Ile Thr Ala Thr Glu Met
 2690 2695 2700
 Thr Leu Gln Arg Tyr Ala Ala Asp Ile Asn Ser Arg Leu Ile Arg Gln
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 Val Glu Arg Leu Lys Gln Glu Ala Val Thr Val Pro Val Cys Glu Asp
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 Gln Leu Lys Glu Ile Glu Arg Cys Ile Lys Val Phe Leu His Glu Asn
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 Gly Glu Glu Gly Ser Leu Ser Leu Ala Ser Val Ile Ile Ser Ala Leu
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 Cys Thr Leu Thr Arg Arg Asn Leu Met Met Glu Gly Ala Ala Ser Ser
 2770 2775 2780
 Ala Gly Glu Gln Leu Val Asp Leu Thr Ser Arg Asp Gly Ala Trp Phe
 2785 2790 2795 2800
 Leu Glu Glu Leu Cys Ser Met Ser Gly Asn Val Thr Cys Leu Val Gln
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 Leu Leu Lys Gln Cys His Leu Val Pro Gln Asp Leu Asp Ile Pro Asn
 2820 2825 2830
 Pro Met Glu Ala Ser Glu Thr Val His Leu Ala Asn Gly Val Tyr Thr
 2835 2840 2845
 Ser Leu Gln Glu Leu Asn Ser Asn Phe Arg Gln Ile Ile Phe Pro Glu
 2850 2855 2860

Ala Leu Arg Cys Leu Met Lys Gly Glu Tyr Thr Leu Glu Ser Met Leu
 2865 2870 2875 2880
 His Glu Leu Asp Gly Leu Ile Glu Gln Thr Thr Asp Gly Val Pro Leu
 2885 2890 2895
 Gln Thr Leu Val Glu Ser Leu Gln Ala Tyr Leu Arg Asn Ala Ala Met
 2900 2905 2910
 Gly Leu Glu Glu Glu Thr His Ala His Tyr Ile Asp Val Ala Arg Leu
 2915 2920 2925
 Leu His Ala Gln Tyr Gly Glu Leu Ile Gln Pro Arg Asn Gly Ser Val
 2930 2935 2940
 Asp Glu Thr Pro Lys Met Ser Ala Gly Gln Met Leu Leu Val Ala Phe
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 Pro Lys Lys Ala Val Arg Asp Pro Lys Thr Gly Lys Ala Val Gln Glu
 3585 3590 3595 3600

Arg Asn Ser Tyr Ala Val Ser Val Trp Lys Arg Val Lys Ala Lys Leu
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Glu Gly Arg Asp Val Asp Pro Asn Arg Arg Met Ser Val Ala Glu Gln
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<213> Artificial Sequence

<220>
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sequence containing six histidine residues

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